

SOURCE: Svarochnoye proizvodstvo, no. 6, 1965, 15-17

TOPIC TAGS: build-up sequence, press tool, press bushing, press die, carbon
metal bushing.

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CIA-RDP86-00513R001756120013-5

NO REF ID: 100

1984 10.2

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756120013-5"

TOLSTOV, K. D.

"Mass and Trajectory of Fission Products of Plutonium," Uspekhi Fiz. Nauk, 37, No.3, 1949.

TOLSTOV, K. D.

"Uranium-235 in 'Tukholite'", Uspekhi Fizicheskikh Nauk, Vol. XL, No. 3, 1950

TRANSLATION AVAILABLE In W-12587, 4 Aug 1950.

TOUSTOV, K.D.

600-
RMC 1-

4076 AEC-tr-2435((Pt. 1) (D.95-109))
AVERAGE NEUTRON VELOCITIES IN VARIOUS MEDIA.
K. D. Tolstov, F. L. Shapiro, and I. V. Shtrankh, p.95-
103 of CONFERENCE OF THE ACADEMY OF SCIENCES
OF THE USSR ON THE PEACEFUL USES OF ATOMIC
ENERGY, JULY 1-5, 1955. SESSION OF THE DIVISION OF
PHYSICAL AND MATHEMATICAL SCIENCES. (Transla-
tion). 14p.

This paper was originally abstracted from the Russian
and appeared in Nuclear Science Abstracts as NSA 9-7892.

RMC 204

Tolstouk, D.

9 F
IRM

Investigation of the parameters of uranium-graphite heterogeneous systems by the prism method. — L. V. Groyshev, D. I. Kozmits, Z. E. Lazareva, K. D. Tolstouk, E. G. Feinberg, I. M. Frank, R. L. Shapiro, and I. V. Shtrankh. *Atomnoy Energii, Zasedaniya Otdel. Fiz.-Mat. Nauk* 1955, 21-50 (English summary, 51-2). — The buckling, χ^2 , the multiplication factor k , and the thermal utilization factor θ in a U-graphite heterogeneous system with const. slug diam. were investigated as a function of the U concn., C , in a Cd-shielded prism of $180 \times 180 \times 420$ cm. The equidistant channels in the graphite could be filled either with U slugs or graphite rods. C in the prism was varied by removing metal from the channels. An at. concn. of V_f is the arbitrary unit. About half of the channels, were of larger diam. so that an air gap existed around the slugs; by moving the slugs from one channel into a wider one, the gap effect could be measured. The values χ^2 and k were detd. according to the exponential method; both had a max. at $C \approx 0.8$, and were 0 at $C = 0.3$, and 1 at $C = 1.0$; θ was obtained from Cd-ratio measurements; a formula was derived

$(1 - \theta)/\theta = (g/C) - k$, where g and k are consts. This agreed with the results of the diffusion theory, k/θ is a linear function of C ; by extrapolating to $C = 0$ k can be split into two empirical factors η_1 and ϕ . η_1 is the no. of neutrons generated per thermal neutron captured; it is 1.34 ± 0.02 . ϕ is the probability of fission neutrons reaching the thermal energy region. Thus $1 - \phi$ is the radiation capture in U, partially compensated by epithermal fission. It is a linear function of C . Both air gaps and H_2O gaps were tried for cooling. At $C < 1.5$ H_2O has a neg. effect on k and at > 1.5 a pos. one; the air gap influences θ mostly, but both gap effects of air or H_2O were smaller than anticipated from the elementary diffusion theory, this is simply due to the one-velocity-group treatment, which is mathematically insufficient.

Werner Jacobson

(2)

Werner Jacobson

TOLSTOV, K. D.

1100-1-RML

4091 AEC-tr-2435(Pt. 1)(p.39-58)

INVESTIGATION OF THE PARAMETERS OF HETERO-
GENEOUS URANIUM-GRAPHITE SYSTEMS BY THE
PRISM METHOD. L. V. Groshev, O. I. Kozinets, L. E.

Lazareva, K. D. Tolstov, E. L. Feinberg, I. M. Frank,

F. L. Shapiro, and V. Shtrankh. p.39-58 of CONFER-

ENCE OF THE ACADEMY OF SCIENCES OF THE USSR ON

THE PEACEFUL USES OF ATOMIC ENERGY, JULY 1-6,

1955. SESSION OF THE DIVISION OF PHYSICAL AND

MATHEMATICAL SCIENCES. (Translation). 20p.

This paper was originally abstracted from the Russian and
appeared in Nuclear Science Abstracts as NSA 9-7525.

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RML

Tolstoy, K.D.

1141

Average neutron velocities in various media. K. D. Tolstoy, P. L. Shapiro, and I. V. Shtraniikh. *Sessiya Akad. Nauk S.S.R. po Mirnomu Ispol'zovaniyu Atomnoi Energii, Zasedaniya Otdel. Fiz.-Mat. Nauk* 1955, 103-29 (English summary, 120-31).--The process of slowing down neutrons in the vicinity of the thermal equil. region ($v = 2200$ m./sec.) is influenced by many factors. The av. energy and spectrum of the neutrons depend on the mean energy transferred owing to inelastic collisions, on the capture cross section, the structure and vol. of the moderator, and the temp. of the medium. The influence of these factors on the av. velocity \bar{v} and on the spectrum of thermal neutrons was studied. The \bar{v} was detd. by the ratio flux of neutrons to their d. The d. was measured with a BF₃ ionization chamber, the flux with a Geiger counter, which counted the γ -quanta owing to neutron capture in Cd. The ρ was obtained by measuring the transmission of neutrons by a $1/v$ absorber. The temp. function of the diffusion length was detd. by the exponential method. The changes with temp. of the diffusion coeff. of the neutrons was found by measuring the variation of the neutron density when the medium was heated; the mean free transport path changes were found by measuring the changes of the albedo. Expts. were done with prisms of $60 \times 60 \times 100$ cm. or $20 \times 100 \times 120$ cm. of graphite (I), paraffin (II), H₂O, and H₂O-B, with and without increments having $1/v$ absorption. Also, heterogeneous systems with I and H₂O as moderators, like the U-I

system, were investigated, and it was found that in I, II, and H₂O the neutrons attain thermal equil. and their velocity spectrum is Maxwellian. If the lifetime of the neutrons within the prism is decreased to $1/29$ by introducing neutron absorbers, or to $1/50$ by diminishing the dimensions of the prism, \bar{v} is increased up to 40%. Neutrons in the vicinity of the thermal equil. suffer many collisions before they lose their energy; the results agree with the theory of slowing down of neutrons in a cryst. medium. If I is heated up to 300° , the increase of \bar{v} is $0 \pm 2\%$ larger than is that of the square of the diffusion length, thus the mean free transport path λ_{tr} decreases $5 \pm 1\%$. The \bar{v} was measured at 20 and 300° in the U-I system with various U concns., and it was found that for any concn. \bar{v} in a homogeneous system is higher than in such a heterogeneous one. It was found by calen. and measurement that the neutron spectrum emitted by the moderator surface is not only detd. by the neutron spectrum in the moderator, but also by the energy function of λ_{tr} . Therefore, the spectrum of the

neutrons in the medium is different from that of the neutrons that have passed through the prism.

W. J.

(2)

10/12/55

1025/00, K.D.

Measurement of temperature effects in uranium-graphite over a layer of 1 adjacent to the slug. At identical U concns. the θ of a heterogeneous system can be increased over that of a homogeneous one by inhomogeneously heating the moderator. In order to evaluate correctly the temp. effect on the ρ escape probability, ρ , cold H_2O and H_2O at 80° were circulated alternately through the slugs, the temp. of the 1 being kept const. The variation of ρ was obtained from exponential measurements of the buckling x^2 and from measurements of the influence of heating on the epi-C1 neutron integral is found to be $\partial\rho/\partial t = (1.95 \pm 0.4) \times 10^{-4}$ per degree. The temp. effect on k_{∞} was ded. by measuring ρ from the changes of ρ and θ and from the temp. effect on k_{∞} . It was found that ρ has a neg. temp. effect, which is roughly proportional to the variation of the mean energy of neutrons generated, no. of neutrons captured) were calculated. The thermal neutrons, caused by the heating of the system: $\partial\rho/\partial t = -(37 \pm 6) \% / ^\circ C$.

K. D. Tolstoy, B. P. Ad'yasevich, O. I. Kozmits, S. M. Frank, P. L. Shapiro, and I. V. Zaslavskiy. *Ispol'zovaniye Atomnoy Energii, Zashchaniya Otdel. Fiz.* 1955, 132-54 (English summary, 154-51). The effects on the multiplication const. $k_{\infty} = \rho \theta$ and being kept const. The variation of ρ was obtained from exponential measurements of the buckling x^2 and from measurements of the influence of heating on the epi-C1 neutron integral is found to be $\partial\rho/\partial t = (1.95 \pm 0.4) \times 10^{-4}$ per degree. The temp. effect on k_{∞} was ded. by measuring ρ from the changes of ρ and θ and from the temp. effect on k_{∞} . It was found that ρ has a neg. temp. effect, which is roughly proportional to the variation of the mean energy of neutrons generated, no. of neutrons captured) were calculated. The thermal neutrons, caused by the heating of the system: $\partial\rho/\partial t = -(37 \pm 6) \% / ^\circ C$.

Werner Jacobson

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CIA-RDP86-00513R001756120013-5"

USSR/Nuclear Physics - Elementary Particles

C-3

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33920

Author : Dul'kova, L. S., Romanova, T. A., Sokolova, I. B., Sukhov, L. V.,
Tolstov, K. D., Shafranova, M. G.

Institution : None

Title : Interaction of 300-Mev π^- -Mesons with Protons, Deuterons, and
Nuclei of a Photographic Emulsion

Original

Periodical : Dokl. AN SSSR, 1956, 107, No 1, 43-46

Abstract : AIKFI plates of the "p" type, enriched with H or loaded with
D by impregnating in a 30% water solution of lithium acetate,
were radiated in the phasotron of the Institute for Nuclear
Problems, Academy of Sciences USSR by π^- -mesons of 225 ± 8 Mev.
The H content reached $6 \cdot 10^{22}$, and the D content reached
 $3 \cdot 10^{22}$ per cm^3 . The presence of Li made it possible to
control the evenness of the loading. The increased value of

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USSR/Nuclear Physics-Elementary Particles

C-3

Abst Journal : Referat Zhur-Fizika, No. 12, 1956, 33920

pH of the lithium acetate contributed to a reduction in regression. The radiation was carried out up to a density of 10^4 to 10^5 tracks per cm^2 . The examination was made by areas and along the track. The average free path for all the processes, including scattering by an angle greater than 20° was $88 \pm 5\%$ of the geometric. The principal contributions are made by processes of inelastic scattering and absorption with star formation.

The area inspection method was used to trace 1,240 stars. A distribution was made by the number of rays. Fifty cases of scattering by H and 11 cases of scattering by D were found; the elastic-scattering sections were respectively $H - 14 \pm 3.6$ millibarn and $D = 15 \pm 5.5$ millibarns. The scattering by D is strongly anisotropic. A histogram is given for the differential scattering of π^- -mesons by H in a center of gravity system. A discrepancy is noticed from the theoretical curve for small scattering angles.

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CIA-RDP86-00513R001756120013-5

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756120013-5"

TOLSTOV, K.D.

BELYAKOV, V.A.; IVANOVA, L.N.; KOZLOVA, L.G.; TOLSTOV, K.D.

Experiments with 600 micron layers from the "R" Emulsion of the
Motion Picture and Photography Scientific Research Institute.
Zhur. nauch. i prikl. fot. i kin. 2 no.5:325-329 S-O '57.

(MIRA 10:11)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Photographic emulsions)

120-6-30/36

AUTHORS: Otroshchenko, V.A., Sviridov, V.A., Tolstov, K.D.,
and Shal'nikov, A.I.

TITLE: Solid Hydrogen Targets on the Surface of Photographic
Emulsions (Tverdyye vodorodnyye misheni na poverkhnosti
fotoemul'sii)

PERIODICAL: Pribery i Tekhnika Eksperimenta, 1957, No.6,
pp. 110 - 111 (USSR).

ABSTRACT: It is difficult to study interactions between elementary particles and protons and deuterons which are included in nuclear emulsions because their number is small compared with the total number of nucleons bound in the nuclei of the emulsion. This is still true even when the emulsion is specially loaded with deuterium and hydrogen. To remove this difficulty, it is convenient to have a target of solid hydrogen or deuterium deposited directly on the surface of the emulsion. In this method of preparation of targets the temperature of the emulsion cannot be greater than 12 to 15 °K. Because of this, the temperature dependence of the sensitivity of NIKFI-R emulsions was investigated (Ref.1). Already at 20 °K, the sensitivity of emulsion is down by a factor of 2 and therefore it is difficult to use this emulsion with mini-
Card1/2 mum ionisation particles. However, different types of

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Solid Hydrogen Targets on the Surface of Photographic Emulsions.

emulsion have been described (Refs. 2 and 3) which have the property that their sensitivity falls much lower with temperature. To obtain sufficiently thick solid hydrogen targets on top of emulsions, a special device shown in Fig.1 was used. The photoemulsion, 2, kept at the bottom of the plate-holder, 1, was surrounded by liquid hydrogen. Through the tube, 3, deuterium gas was introduced into the plate-holder and slowly solidified on top of the emulsion due to the cooling effect of the surrounding liquid hydrogen. After this, the Dewar containing the hydrogen was evacuated and the plate-holder was lifted into position for irradiation by a beam from an accelerator. In the case of the solid hydrogen target, liquid helium was used as the cooling agent. V.I. Veksler and I.B. Danilov collaborated. There are 2 figures, 2 diagrams and 3 references, 2 of which are Slavic.

ASSOCIATION: United Institute for Nuclear Studies
(Ob'yedinennyy Institut yadernykh issledovaniy)
Department of Low Temperature Physics of MGU
(Kafedra Fiziki nizkikh temperatur MGU)

SUBMITTED: May 20, 1957.
AVAILABLE: Library of Congress.
Card2/2

702570V K.D.
AUTHORS:

Bogachev, N. P., Van Shu-Fen', Gramenitskiy, I. M.,
Kirillova, L. F., Lebedev, R. M., Lyubimov, V. B.,
Markov, P. K., Merkov, Yu. P., Podgoretskiy, M. I.,
Sidorov, V. M., Tolstov, K. D., Shaframova, M. G.

TITLE:

The Interaction of 9 Bev Protons With Nuclei in Photo-Emulsion
(Vzaimodeystviye protonov s energiyey 9 Bev s yadrami foto-
emul'sii)

PERIODICAL:

Atomnaya Energiya, 1958, Vol. 4, Nr 3, pp. 281 - 284 (USSR)

ABSTRACT:

The photoemulsion $\text{H N K}\Phi\text{M-P}$ with a layer of about 450μ was irradiated with proton within and out of the vacuum chamber of the 9 Bev synchrophasotron. The mean range of 9 Bev protons for an interaction is $34,7 \pm 1,5$ cm. (The scattering for angles below 5° was not taken into account). 258 cases of a nuclear interaction were observed. The mean number of fast particles n generated a process of interaction to $3,4 \pm 0,7$. The angular distribution of these particles shows a clearly preferred forward motion. The mean number of black and grey traces N_n - the recoil nuclei not being considered - is $8,3 \pm 0,5$. From 249 found stars 18 can be considered to constitute in interaction of the initial protons with "free" or "quasifree" protons. 13 stars can be considered to represent

an interaction between protons and "quasifree" neutrons. All of them have an odd number of traces, and in the point of formation of the stare β -traces can be observed. The mean number of fast particles in these 13 star traces is $3,1 \pm 0,3$. There are 5 figures, 1 table, and 7 references, 1 of which is Slavic.

SOV/89-5-4-7/24

AUTHOR: Borashenkov, V. S., Van Shu-fen', Tolstov, K. D.

TITLE: Collisions of Protons With an Energy of 9 BeV With Nucleons
(Stolknoveniya protonov s energiyey 9 Bev s nuklonami)

PERIODICAL: Atomnaya energiya, 1958. Vol 5, Nr 4, pp 453-454 (USSR)

ABSTRACT: The nuclear emulsior **NIKFI-R**, which has a thickness of layer of $\sim 450\mu$, was bombarded with protons of ≈ 9 BeV (synchro-phasotron of the Ob'yedinennyi institut yadernykh issledovaniy (United Nuclear Research Institute)). From 372 stars 39 were counted as p,p-collisions and from 264 stars 11 were counted as p,n-collisions. Three of the 39 stars could be fixed as being elastic p,p-collisions. The following further values were obtained by counting (average number of the particles taking part in the p,p- and p,n-collisions respectively):

$$\bar{n}_p = 3.8 \pm 0.3$$

$$\bar{n}_n = 2.8 \pm 0.6$$

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$$\bar{n}_p^{(s)} = 3.1 \pm 0.3 \quad (s) = \text{fast particles}$$

SOV/89-5-4-7/24

Collisions of Protons With an Energy of 9 BeV With Nuclei

$$\bar{n}_n^{(s)} = 2,5 \pm 0,6 \quad (s) = \text{fast particles}$$

The angular distribution for $n^{(s)}(\Theta)$ is recorded graphically. The average loss of energy for the forming of ions at p,p-collision amounts to about 50% of the energy of the primary protons.

E. G. Bubelev, V. M. Mal'tsev, and Ten-Gyn assisted in the theoretical calculations. L. F. Kirillova and V. A. Belyakov assisted in experiments. There are 1 figure, 1 table, and 3 references, 2 of which are Soviet.

SUBMITTED: August 1, 1958

Card 2-2

BARASHENKOV, V. S., BELYAKOV, V. A., BUBELEV, E. G., MALTSEV, V. M., TOLSTOV, K. D.,
WANG SHOU FENG, and TEN GYN.

"Multiple Production of Particles in Collisions between 9 GeV Protons and Nucleons." Nuclear Physics, vol. 9, No. 1, Nov 1958.

Joint Inst. Nuclear Research, Lab Theoretical Physics and High Energy Lab., Dubna.

Abstract: Some theoretical calculations pertaining to multiple production of particles in nucleon-nucleon collisions at 7-10 GeV were presented in ref. 1, Some preliminary experimental results obtained by irradiating photographic emulsions with proton beam from the synchrocyclotron of the Joint Inst. Nuclear Research were given in ref. 2. In the present paper we compare the theoretical results of ref. 1. with the results of some new experiments. 372 stars of which 50 were classified as proton-nucleon collisions, were recorded in NIKFI-R photographic emulsions along the tracks of \approx 9 GeV protons accelerated in the JINR proton synchrocyclotron. The mean number of charged particles created in these collisions was 3.6 ± 0.5 . The angular distribution of fast charged particles is obtained. As a whole the experimental results agree with the statistical theory of multiple particle production within the limits of the experimental \pm errors. Some discrepancy is evident in the small angle range and may be due to the contribution of non-central impacts and to asymmetry of the angular distribution in the c.m.s.

(23.3000)

66838

SOV/77-4-6-5/16

AUTHOR: Belyakov, V.A., Kozlova, L.G., Sviridov, V.A. Tolstov,
K.D.

TITLE: Dependence of the Sensitivity of Nuclear Emulsions on
Temperature Within the Range of 2-300° K

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
1959, Vol 4, Nr 6, pp 427-429 (USSR)

ABSTRACT: The author reports on recent Soviet study of the depen-
dence of the recording properties of various nuclear
emulsions on temperature within the range of 2-300° K.
The results of the first experiments were published in
the paper of N.A. Dolina, V.A. Sviridov, K.D. Tolstov
and E.N. Tsyganov [Ref 1]. Subsequently, an attempt
was made to improve the recording properties of the
emulsion NIKFI R 400μ by a change in the processing con-
ditions. Curve 1 of the graph (taken from the paper of
V.A. Belyakov, L.G. Kozlova, V.A. Sviridov, K.D. Tol-
stov and E.N. Tsyganov [Ref 2]) corresponds to the
normal processing conditions of emulsions, which with

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SOV/77-4-6-5/16

Dependence of the Sensitivity of Nuclear Emulsions on Temperature
Within the Range of 2-300° K

regard to the correlation trace density of fog are most suitable for exposure at room temperature. Curve 2 corresponds to intensified development conditions, the fog increasing in this case by 50%. NIKFI low-temperature emulsions without silver iodide gave better results. Under normal processing conditions, the relative sensitivity at 20° K for the best series of emulsions was equal to $45 \pm 3\%$, and the absolute density of the tracks of the relativistic particles amounted to 17 grains for 100μ . The microphotograph shows the tracks of π -mesons with an energy of 340 Mev and nuclear fission at an exposure of the emulsion at 20° K. Fine-grained emulsions developed by N.A. Perfilov, N.R. Novikova and Ye.T. Prokof'yeva [Ref 3] showed at 75° K a relative sensitivity of 75%. The density of the grains on the tracks of the relativistic particles at 300° K amounted to 46 grains per 100μ . Experiments with Ilford ("Il'ford") G-5 600 μ layers [Ref 4] were also carried out (see

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SOV/77-4-6-5/16

Dependence of the Sensitivity of Nuclear Emulsions on Temperature
Within the Range of 2-300° K

Table). The grain density at exposure within the range of 2-215° K averages 15-17 grains per 100 μ of particle track. The fog is approximately constant. The layers were processed under conditions recommended by the firm of Ilford. Comparative data on NIKFI and Ilford emulsions are given in the graph. There are 1 graph, 1 microphotograph, 1 table and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint
Institute of Nuclear Research)

SUBMITTED: September 23, 1957

Card 3/3

To Ls To y, K.D.

21 (8)
AUTHORS:
Zurabashvili, V. S., Belikov, V. A., SOV/89-7-4-12/29
Van der Meer, J., V. V. Dolbuzhskiy, M. K. Kirillova, L. P.,
Lobachev, M. N., Melnikov, V. M., Melnikov, V. I., Tolstoukhina,
Toguchina, M. N., Shadrinova, M. G., Yao Ch'ing-hsieh

TITLE:
The Interaction of Fast Nucleons With Nuclei of the Photo-
emission KIKPI-3

PERIODICAL:
Atomnaya energiya, 1959, Vol. 7, No. 4, pp 576-577 (USSR)

ABSTRACT:
The present paper deals with the interaction between 9 Bev-
protons, which were accelerated in the beam of the synchro-
tron of the Ob'yedinyeniy Institut Yadernykh Issledovaniy
(Joint Institute of Nuclear Research), and the nuclei of a
photoemission of the KIKPI-3 type. On the basis of the data
measurements are shown by the authors. On the basis of the data
thus found it is possible to draw several conclusions as to
the mechanism of the interaction between a fast proton and a
nucleus. If the primary nucleon-nucleon collision is an
interaction between nucleon and channel, the velocity of the
center of mass in an interaction of silver and bromine with
the channel will be considerably less than in an interaction
with light nuclei. Therefore, also the number of π -particles

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must be considerably greater. In the experiment, the numbers
of π -particles for light and heavy nuclei are nearly
the same. This is explainable on the basis of the cascade
mechanism of interaction, in which the energy of the π -particles
decreases rapidly in cascade collisions. The multiplicity of
the particles produced decreases simultaneously. In the case
of the greater number of π -particles, nucleons are concerned,
which may be explained by the cascade mechanism of nucleon-
nucleon interaction. Also the agreement between the transversal
momentum p_{\perp} for π -protons originating from interactions with
light and heavy nuclei points in the direction of the inter-
action cascade mechanism. Besides, a search was made for
strange particles by employing the method of investigating
according to areas. The cross section of the production of
 K^+ -particles with an energy of $E < 140$ Mev in a medium-
weight nucleus of the photoemission amounts to

$(5 \pm 2) \cdot 10^{-27}$ cm². Besides, the amount of the production cross
section, the wide angular distribution of the K -mesons, as
well as other facts indicate that a noticeable fraction of

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slow strange particles is produced in an intranuclear cascade
process. Furthermore, the medium-weight energy losses of a
fast nucleon are evaluated in the case of a single nucleon-
nucleon collision. A 9 Bev-proton gives up an average of
(5.1 \pm 0.8) Mev to a medium-weight nucleus of the photoemission,
which amounts to (50 \pm 10) % of its initial energy. 4.05 Mev
are used for the production of pions, and 1.05 Mev are trans-
ferred to the nucleons of the nucleus. As a proton in an atom-
weight nucleus undergoes approximately 2 collisions, the proton,
in one single nucleon-nucleon collision, loses $\Delta E = 55 \pm 10$ %
of its initial energy. By means of other measurements of the
 π -particle production cross section in the KIKPI-3 photoemission
paper in nucleon-nucleon collisions $\Delta E = 40 \pm 10$ % is obtained.
The statistical theory of multiple production furnishes
 $\Delta E = (40 - 50)$ %. The authors thank G. Besenovich, V. Zakaria,
Z. Kuznetsova and M. Khatim for their help in the measurements,
and L. Popova for assistance in analyzing measuring results.
There are 1 table and 1 reference.

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85363

S/120/60/000/005/037/051

E032/E314

21.5200

AUTHORS: Zavaritskiy, N.V., Sviridov, V.A. and Tolstov, K.D.

TITLE: Sensitivity and Thermal Conductivity of Nuclear Emulsions at Low Temperatures

PERIODICAL: Priory i tekhnika eksperimenta, 1960, No. 5, pp. 131 - 152

TEXT: НИКФИ-Р (NIKFI-R) and Ilford G-5 nuclear emulsions were investigated. The thermal conductivity of the emulsions was measured by the method described in an earlier paper (Ref. 1). In the temperature interval 4 - 1.5 °K the coefficient of thermal conductivity of the NIKFI-R emulsions can be expressed by the formula:

$$K \sim 2.2 \cdot T^{2.8} \cdot 10^{-5} \text{ W/cm } ^\circ\text{K} \quad (1) .$$

A description is given of a low-temperature device which was used to cool the emulsions below 1 °K. The emulsions are cooled by connecting them through a heat-conducting rod to a block of an adiabatically demagnetised material. The sensitivity was measured after irradiating the emulsions with Co⁶⁰ γ-rays

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S/120/60/000/005/037/051
E032/E314

Sensitivity and Thermal Conductivity of Nuclear Emulsions at Low Temperatures

at 0.1, 0.3, 1.6 and 300 °K. The results obtained are summarised in the following table:

X

Emulsion	Temperature, °K				Absolute sensitivity at 300 °K (blobs/100μ)
	300	1.6	0.3	0.1	
NIKFI-R	100% $\left(36^{+15}_{-10}\right)\%$	$\left(31^{+15}_{-10}\right)\%$	$\left(21^{+15}_{-10}\right)\%$	~ 60	
Ilford G-5	100% $(69 \pm 15)\%$	-	$(70 \pm 15)\%$	~ 25	

The sensitivity at 300 °K was taken at 100%. Acknowledgments are expressed to P.L. Kapitza for collaboration in this work.

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85363

S/120/60/000/005/037/051

E032/E314

Sensitivity and Thermal Conductivity of Nuclear Emulsions at
Low Temperatures

There are 2 figures, 1 table and 1 Soviet reference.

ASSOCIATION: Ob'yedinenyy institut yadernykh issledovaniy
(Joint Institute for Nuclear Studies)

SUBMITTED: August 13, 1959

X

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PERELYGIN, V.P.; TOLSTOV, K.D.

Cross section of the reaction $\text{Li}^6 (n, \alpha) \text{H}^3$ for 2.15 Mev neutrons.
Atom. energ. 9 no.6:488-489 D '60. (MIRA 13:12)
(Lithium--Isotopes) (Tritium)

TOLSTOV, K. D.

24.640
AUTHORS;

Bel'yakov, Y. A. : Vozhbu-fen', Glikolyz, Y. T. : zal'azheny

8/056/60/012,021,022/048
B004/B070

71728

TITLE: Inelastic Interactions of 7 Bev π -Mesons and Nucleons

PHENOMENON: 7

PHENOMENON: Zhurnal eksperimental'noy i teoreticheskoy fiziki. 1967

VOL. 39, No. 4(10), PP. 937-947

NOTE: The inelastic interaction of 7-MeV α -particles with nucleons is studied in this paper. The preliminary results were communicated to the 1987 American Nuclear Society meeting on "Nuclear Reactions and Neutron Interactions" held at the University of California, Berkeley. The simulation chamber consisted of 240 MgKAlF_6 (fluorapatite) crystals with a thickness of 400 μ . 5500 interactions with the nuclei of fluorine ($Z=9$) were observed. Of these, 935 inelastic interactions were analyzed (Table 1). The angular distribution of the charged particles was calculated by 7.5-dimensional distribution of the α was eliminated by special measurements (Table 2). 459 points and 194 points

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here described. The angular distribution of pions and the total distribution of all stars (in c.o.s.) are shown in Fig. 1. For smaller number of charged particles, the asymmetry increases strongly. This is probably due to pions with large momenta (Fig. 2). Therefore, the angular distributions are very different for fast and slow pions (Fig. 3) and stars with momenta < 0.5 GeV show an almost isotropic distribution. From the angular and total distributions of protons (Fig. 4) it is seen that the protons conserve their initial direction. From the momentum distributions of pions and nucleons, the authors conclude that the conservation of the momentum and of the charged pions does not depend on the number of charged particles. The same result follows from the average transverse momenta of protons and pions given in Table 2. Fig. 5 shows the number of neutral stars as a function of the number of charged particles. The results can be interpreted only partly by the statistical theory. The asymmetry of the angular distribution of the secondary pions can only be explained by the peripheral collision of the pions with a pion of the nucleus shell (Figs. 6 and 7). As estimates of the nature of the nucleus core give the

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MAXIMUM VALUE OF $4 \cdot 10^{-14}$ cm. The authors suggest the results as follows
AVERAGE MOMENTUM OF PROTONS $\approx (0.6 \pm 0.04)$ GeV/c. AVERAGE TRANSVERSE

Moscow, 1; 0-370, 0d./sv./f. asymmetry of angular distributions of all planes = 1.5650, 0d. planes with P 0.0, 5 berys are attituded in the forward direction, their average asymptotic equaling 0.6750 (0d./sv./f) and agrees therewith, also that of the protons. The authors thank G. A. Rykova, L. I. Vashler, for discussion and advice. There are 9 figures, 5 tables, and 25 references: 9 Soviet, 8 US, 1 British, 1 German, 4 Italian, 1 Japanese, and 1 Polish.

ASSOCIATION: Ob"yedinenyy Institut yedernykh issledovaniy (191-4

Institute of Nuclear Research)

SUBMITTED: May 11, 1960

Card 3/3

TOLSTOV, K. D.

32991

S/641/61/000/000/018/033
B108/B102

24.6500
AUTHORS: Mikhaylina, K. M., Nomofilov, A. A., Romanova, T. A.,
Sviridov, V. A., Tikhomirov, F. A., Tolstov, K. D.
TITLE: Interaction of 14.1-Mev neutrons with Li^6 and Li^7
SOURCE: Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik state.,
Moscow, 1961, 247 - 257

TEXT: Interaction of 14.1-Mev neutrons with Li^6 and Li^7 nuclei was studied both with targets prepared from Ilford E₁ photoemulsions bearing the lithium and with targets of metallic lithium isotopes. The latter method was used for small angles of the departing particles. The mean number of Li nuclei in the photoemulsion was $2.3 \cdot 10^{19} \text{ cm}^{-2}$. The integral neutron flux striking the emulsion at right angles was about 10^8 cm^{-2} . Altogether, 412 events were recorded on a 2.5 cm^2 area. 96 events were from the reaction $\text{Li}^6(n,t)\alpha$ with a cross section $\sigma = 27 \pm 6 \text{ mb}$. Seven $\text{Li}^6(n,p)\text{He}^6$ reactions with a cross section of about 5 mb were found, moreover
Card 1/2

32991

S/641/61/000/000/018/033
B108/B102

Interaction of 1.1-Mev...

$\text{Li}^6(n,d)\text{He}^5$ reactions with a differential cross section of 2.15 to 2.5 mb/sterad in the range between 70 and 142°. The cross section of the $\text{Li}^6(n,n')\text{Li}^{6*} \rightarrow d + \alpha$ events was 70 ± 12 mb, that of the reaction $\text{Li}^6(n,2n)\text{Li}^{5*} \rightarrow \alpha + p$ was equal to 50 ± 10 mb. Interaction with Li^7 yielded the reactions $\text{Li}^7(n,t)\text{He}^5$, $\text{Li}^7(n,n')\text{Li}^7$, and seven $\text{Li}^7(n,d)\text{He}^6$ events. In the experiments with pure lithium targets the reactions observed were $\text{Li}^6(n,d)\text{He}^5$ ($\sigma = 50 \pm 10$ mb), $\text{Li}^7(n,t)\text{He}^5$ (58 ± 12 mb), $\text{Li}^7(n,n')\text{Li}^{7*} \rightarrow t + \alpha$, $\text{Li}^7(n,d)\text{He}^6$. The overall cross section of (n,r') and $(n,2n)$ processes for Li^6 was 179 ± 20 mb. The results obtained are consistent with those of other publications. I. M. Frank, O. I. Kozinets, L. N. Katsaurov, and D. I. Ivanov are thanked for help. There are 6 figures, 1 table, and 7 references: 2 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: Frye, G. M. Phys. Rev., 93, 1086 (1954); Battat, M. E., Ribe, F. L. Phys. Rev., 89, 80 (1953); Frye, G. M., Rosen, L. Phys. Rev 90, 381 (1953); Moak, C. E. Phys. Rev., 92, 383 (1953).

Card 2/2

3.2100 (also 4303)

37199

S/560/61/000/011/005/012
E032/E514

AUTHORS: Veprik, Ya.M., Kurnosova, L.V., Razorenov, L.A.,
Tolstov, K.D., Fradkin, M.I. and Chukin, V.S.

TITLE: Experiment on the development of photographic
emulsions on board the second cosmic spaceship

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli.
no.11. Moscow, 1961. Rezul'taty nauchnykh
issledovaniy, provedennykh vo vremya poletov vtorogo
i tret'yego kosmicheskikh korabley-sputnikov, 35-41

TEXT: The second Soviet cosmic spaceship carried stacks
of thick nuclear emulsions. Owing to the fact that the spaceship
remained in orbit for a considerable time, the number of particles
recorded in the emulsions was very large, which could complicate
subsequent scanning and identification of particle tracks. It was,
therefore, necessary to develop the emulsions before too many
particles had been recorded. An account is given in the present
paper of how the emulsions were in fact developed on board the
spaceship. The operation was carried out in four stages, namely:
1) exposure of the emulsions to the radiations for a given time,

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2

Experiment on the development ... S/560/61/000/011/005/012
EO32/E514

2) development, 3) storage of the emulsions (latent-image centres produced during this period could not be developed), 4) subsequent laboratory analysis on the Earth's surface. The whole operation was carried out in a hermetically sealed container. The emulsion stack (20 unbacked emulsions 300 μ thick each) had to be so arranged that after the exposure the emulsions could be separated from each other and the developer let in. This was done by a piston device (a schematic drawing of the latter is reproduced). After this operation the developer was removed and a stopping solution was introduced. The emulsions remained in this solution until they were returned to the laboratory for final treatment. It was found that relativistic tracks were easily visible in these emulsions, although the sensitivity to the latter turned out to be somewhat lower than usual. Two particle-track microphotographs are reproduced to illustrate the possibilities of the method. There are 3 figures.

SUBMITTED: July 7, 1961

Card 2/2

29612
S/120/61/001/004/023/034
EO32/E514

24.6830

AUTHORS: Perelygin, V. P., Myachkova, S. A. and Tolstov, K. D.

TITLE: Introduction of beryllium grains into photographic emulsions

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No. 4, pp. 145-147

TEXT: Zh. S. Takibayev (Ref. 3; Zh. eksperim. i teor. fiz., 1953, 24, 229) is said to have been the first to introduce spherical metal grains into photographic emulsions. Quantitative experiments concerned with the determination of cross-sections using non-spherical beryllium grains were described by S. S. Vasil'yev, V. V. Komarov, A. M. Popova (Ref. 4; PTE, 1959, No. 1, 48). The dimensions of the grains depend on the minimum range of charged particles which can be recorded in an ordinary emulsion (3 μ approximately). However, the grains cannot be too small since otherwise there may be confusion as to whether the event takes place in the grain or the emulsion. The present authors have used the spark discharge method of evaporation of metals described by B. R. Lazarenko, N. I. Lazarenko (Ref. 5; ✓

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29612

Introduction of beryllium grains ... S/120/61/000/004/023/034
EO32/E514

Elektroiskrovaya obrabotka metallov (Electric Spark Treatment of Metals), 1950, Gosenergoizdat). In the case of a spark discharge between two electrodes located in a dielectric, it is found that in most cases the metal grains produced during the process are spherical in form. It is stated that the "usual circuit" was employed with $R = 115 \text{ Ohm}$, $C = 2-8 \text{ } \mu\text{F}$, $V = 110 \text{ V}$. The average beryllium grain diameter was about $1.5 \text{ } \mu$. The volume of the dielectric was 50 to 100 cc and the evaporation process was continued for 60 to 90 min. At first the dielectric employed was absolute alcohol. However, the spark discharge in alcohol leads to the formation of BeO and Be(OH)_2 and complex insoluble compounds. Tests were therefore made to determine whether the grains could be obtained with a spark discharge in liquefied argon. The evaporation was carried out in a dewar having a volume of about 200 cc. The argon was then driven off and the volume was filled with alcohol. In this way it was possible to obtain isolated beryllium grains and the suspension could be kept for long periods of time. In order to introduce the grains into the emulsion, the photographic plates were placed horizontally and the

Card 2/4 3

Introduction of beryllium grains ... ²⁹⁶¹³ S/120/61/000/004/023/034
EO32/E514

suspension was poured on to it. The particles then sedimented down onto the surface and the alcohol was evaporated. The photographic plate was then covered by a wet, unbacked emulsion and the composite emulsion was placed in a 5% solution of glycerine at 15°C for 45 min. The emulsion was then removed from the glass backing and dried with filter paper. The two-layer photo plates were then placed into a water bath at 45-48°C for 3 to 5 min. In this bath the upper layer fused into the lower one and the separation boundary could not be seen through a microscope. The procedure has been successfully used with Ilford E-1, C-2, HMK 54 A-1 (NIKFI Ya-2), T-1 and T-3 emulsions. Fig.2 shows the diameter (I) and mass (II) distributions. N in this figure is the number of grains, M is the weight of the grains in units of 10^{-9} g/cm², and d is the diameter in microns (horizontal axis). The method has been used in nuclear reaction studies with 14 MeV neutrons. Acknowledgments are expressed to G.Ye.Belovitskiy for advice. There are 2 figures and 5 references: all Soviet.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute AS' USSR) ✓

Card 3/43

TOLSTOV, K. D., VEPRIK (fnu), KURNOSOVA, L. V., RAZORENVO, L. A., FRADKIN, M.I., CHUKIN

"Controlled exposition of nuclear emulsions on sputniks"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West
Germany, 3-8 Sep 62

TOLSTOV, K.D.

[Determination of the effectiveness of observation and the number of events] Opređenje effektivnosti nabliudenií i chisla sobytii. Dubna, Ob"edinennyi in-t iadernykh issledovanií, 1962. 9 p. (MIRA 15:2)
(Photography, Particle track)

SOKOLOV, S.N.; TOLSTOV, K.D.; SARANTSEVA, V.R., tekhn. red.

[Verification of counting efficiency and estimating the true
number of events] Kontrol' effektivnosti nabludeni i otsenka
istinnogo chisla sobytii. Dubna, Ob"edinennyi in-t iadernykh
issledovani, 1962. 10 p. (MIRA 15:12)
(Nuclear counters) (Mathematical statistics)

TOLSTOV, V.N.; TOLSTOV, K.N.

Orientation method for the determination of blood sugar. Zdrav.
Kazakh. 22 no.10:75-76 '62. (MIRA 17:5)

1. Iz Ural'skoy oblastnoy bol'nitsy.

KOROLEV, P.A.; TOLSTOV, K.S.

Smoke generator of a multiple effect. Zashch. rast. ot vred. i bol.
6 no.12:9-11 D '61. (MIRA 16:5)

LUCHINSKIY, G.P., doktor khimicheskikh nauk; TOLSTOV, K.S., kand.tekhnicheskikh nauk; KOROLEV, P.A.

Use of haxachloran in insecticidal fumigants. Khim.prom. no.4:235-
237 Ap '61. (MIRA 14:4)

(Cyclohexane)

(Insecticides)

TOLSTOV, L.A.

Effect of temperature on the oil yield in water flooding.
Neft. khoz. 43 no.6:38-42 Je '65. (MIRA 18:7)

NOVIKOV, V.N.; TOLSTOV, L.K.; SEREBRYAKOVA, Ye.K.; SOKOLOV, B.M.; Prini-
mal uchastiye: Melent'yev, Yu.I.; KAPGER, V.S.; ZORCHENKO, I.P.;
KARPCV, K.F.; Kushnarenko, V.S.; SHEVCHENKO, L.I.; TRIFONOVA, N.
I.; PODZHUNAS, V.A.; MASLITSKAYA, M.P.

Obtaining industrial naphthalene from the centrifugal naphthalene
of the Gubakha Coke and Coal Chemicals Plant. Koks i khim. no.8:
35-38 '62. (MIRA 17:2)

1. Vostochnyy uglekhimicheskiy institut (for Novikov, Tolstov,
Serebryakova). 2. Gubakhinskiy koksokhimicheskiy zavod (for Soko-
lov).

ZOLOTAVIN, V.L.; BUKREYEV, Yu.F.; TOLSTOV, L.K.; BEZRUKOV, I.Ya.

Photometric determination of sodium in pure vanadium pentoxide.
Zhur. prikl. spektr. 2 no.5;461-462 My '65. (MIRA 18:7)

TOLSTOV L. M.

238T17

USSR/Chemistry - Viscosimeters

Aug 52

"The Sliding of Mercury on Glass," L. M. Tolstov,
Moscow Mach Tool and Tool Inst imeni I. V. Stalin

"DAN SSSR" Vol 85, No 6, pp 1329-1332

The sliding effect of Hg can be studied in a capillary having a diam about the size of a micron. Since this excludes the use of ordinary viscosimeters, a specially constructed instrument was made from a long-stem thermometer. Negative results obtained by Brillouin agree with those obtained by using this instrument. Presented by Acad P. A. Rebinder
14 Jun 52

238T17

SIL'CHENKO, Serafim Semenovich; TOLSTOV, M.A., inzh., retsenzent;
LIOZNYANSKIY, M.I., inzh., red.; YERMAKOV, N.P., tekhn.red.

[Hydraulic equipment of metal cutting machines; manual for
repairman] Gidravlicheskoie oborudovanie metalloreshushchikh
stankov; posobie dlia slesarei-remontnikov. Izd.2., dop.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1958.
169 p. (MIRA 12:5)

(Machine tools--Hydraulic driving)

TOLSTOV, MIKHAIL ALEKSEYEVICH

N/5
741.43
.T6

PNEUMATICHESKIYE I PNEVMOGIDRAVLICHESKIYE PRISPOBLENIIYA [PNEUMATIC
AND PNEUMOHYDRAULIC DEVICES/ MOSKVA, MASHGIZ, 1953-

V. DIAGRS. INCLUDES BIBLIOGRAPHIES. LIB.HAS: 1953 (1st ED.)
1956 (2D ED.)

TOLSTOV, M.A.; SHNEYDEIMAN, K.A., red.

[Footprint on the earth] Sled na Zemle. Rostov-na-Donu,
Rostovskoe knizhnoe izd-vo, 1965. 138 p. (MIRA 18:8)

MEN'SHAKOV, Vladimir Mikhailovich; STUDENOK, G.A., inzhener, redaktor;
KUVSHINSKIY, V.V., kandidat tekhnicheskikh nauk, retsenzent;
TOLSTOV, M.A., inzhener, retsenzent; DUGINA, N.A., tekhnicheskii
redaktor

[Planing machines] Strogal'nye stanki. Pod red. G.A. Studenok.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956.
54 p. (Nauchno-populiarnaya biblioteka rabochego stanochnika,
no.22)

(Planing machines)

TOLSTOV, Mikhail Alekseyevich; KERNER, D.B., inzhener, retsenzent; KUVSHIN-
SKIY, V.V., kandidat tekhnicheskikh nauk, redaktor; DUGINA, N.A.,
tekhnicheskii redaktor
[Pneumatic and pneumatic-hydraulic attachments] Pnevmaticheskie i
pnevmodravlicheskie prispособleniia. Izd. 2-oe, dop. i perer.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956.
202 p.

(MLRA 10:4)

(Machine tools--Attachments)

DOROFEYEV, Vasiliy Ivanovich, zootekhnik; TOLSTOV, M.A., red.

[We raise ducks without bodies of water] Vyrashchivaem
utok bez vodoemov. Rostov-na-Donu, Rostovskoe knizhnoe
izd-vo, 1963. 14 p. (MIRA 17:9)

1. Zernogradskaya gosudarstvennaya selektsionnaya stantsiya
(for Dorofeyev).

SHKURD, Gennadiy Alekseyevich: TOL. Tsv, R., red.

[State dairy farm for Rostov workers] Molochnyi sovkhos -
trudiaschimsia Rostova. Rostov-na-Donu, Rostovskoe knizh-
noe izd-vo, 1963. 20 p. (MIRA 17:10)

1. Direktor molochnogo sovkhosa "Ksayskiy" Azovskogo pro-
izvodstvennogo upravleniya Rostovskoy oblasti (for Shkuro).

OGANESYAN, Yefrem Avetisovi , deputat Verkhovnogo Soveta SSSR;
TOLSTOV, M.A., red.

[Creators of golden fleeces] Tvoritsy zolotogo runa. Rostov-
na-Donu, Rostovskoe knizhnoe izd-vo, 1963. 35 p.

(MIRA 17:10)

1. Predsedatel' kolkhoza imeni 17 partkonferentsii,
Remontnenskogo proizvodstvennogo upravleniya, Rostovskoy
oblasti (for Oganessian).

CHEPEL', Yakov Grigor'yevich; TOLSTOV, M.A., red.

[Let's discover, let's utilize the resources] Nakhodim,
ispol'zuem rezervy. Rostov-na-Donu, Rostovskoe knizhnoe
izd-vo, 1963. 28 p. (MIRA 17:10)

1. Direktor ordena Lenina sovkhoza "Tselinskiy" Yegorlykского
proizvodstvennogo upravleniya, Rostovskoy oblasti (for Chepel').

GENIKA, Lyubov' Vasil'yevna, kand. veter. nauk; TCLSTOV, M.A.,
red.

[Trichomoniasis in ca'tle] Trikhomonoz krupnogo rogatogo
skota. Rostov-na-Donu, Rostovskoe knizhnoe izd-vo, 1963.
26 p. (MIRA 17:6)

FEDOROV, Boris Fedorovich; SLOBODYANNIKOV, S.S., kand.tekhn.nauk,
retsenzent; TOLSTOV, M.A., inzh., retsenzent; BOGOSLAVETS,
N.P., tekhn.red.

[Mechanization and automation of fitting and assembling
operations] Mekhanizatsiia i avtomatizatsiia slesarno-
sborochnykh rabot. Moskva, Mashgiz, 1962. 310 p.

(MIRA 15:5)

(Assembly-line methods) (Machine-shop practice)
(Automation)

ROZIN, Aleksandr Iosifovich; REVENKO, Vyacheslav Andreyevich;
TOLSTOV, M.A., inzh., red.; KUTENKOVA, G.M., tekhn.red.

[Using straight and reverse tooth generation in the manufacture
of cutting tools] Metod priamoi i obratnoi obkatki v proiz-
vodstve instrumenta. Sverdlovsk, Tsentralnoye tekhn.informatsii,
1959. 40 p.

(Metal cutting)

(MIRA 14:4)

TOLSTOV, M. A.

LOSKUTOV, V.V.; BREYEV, B.G., kand.tekhn.nauk, retsenzent; KITAYEV,
V.I., inzh., retsenzent; TOLSTOV, M.A., inzh., red.; MODEL',
B.I., tekhn.red.

[Automatic and semiautomatic grinding machines] Shlifoval'nye
avtomaty i polnavtomaty. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1959. 292 p. (MIRA 13:3)
(Grinding machines)

TOLSTOV, M.A.

Pnevmaticheskie i pnevmogidravliche-
skie prispособleniia (Pneumatic and pneumohydraulic
devices). Sverdlovsk, Mashgiz, 1953. 164 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 5, August 1954

10 LSTOV M.H.
ALEKSEYEV, B.A.; ROZIN, A.I.; KLIMOV, V.I., inzhener, retsenzent; TOLSTOV, M.A.,
inzhener, retsenzent; SOMOVA, T.M., inzhener, vedushchiy redaktor, re-
daktor literatury po kholodnoy obrabotke metallov.

[Metal cutting tools; design and manufacture] Instrumental'noe delo.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1952. 319 p.
[Microfilm] (MLRA 7:10)

1. Uralo-Sibirskoye otdeleniye Mashgiza (for Somova).
(Cutting tools)

TOLSTOV, M. A.

Pnevmaticheskiye i pnevmogidravlicheskiye prispособleniya (Pneumatic and pneumo-hydraulic devices) Moskva, Mashgiz, 1953. 162 p. diagrs. "Literatura i istochniki": p. 161.

SO: N/5
741.43
-16

TOLSTOV, M.A.
KUVSHINSKIY, Vladimir Vladimirovich; TOLSTOV, M.A., redsenezent; DUGINA,
N.A. tekhnicheskiiy redakter.

[Milling machinery] Frezernyye stanki. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroitel'noi lit-ry, 1955. 62 p. (Nauchno-populiarnaya
biblioteka rabochego stanochnika, no.24) (MLRA 9:1)
(Milling machines)

SHUMAKOV, B.A., akademik, red.; TOLSTOV, M.A., red.

[Work mechanization in irrigation farming] Mekhanizatsiia rabot v oroshaemom zemledelii. Rostov-na-Donu, Rostovskoe knizhnoe izd-vo, 1965. 152 p.

(MIRA 19:1)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Shumakov).

TOLSTOV, Mikhail Alekseyevich; DUGINA, N.A., tekhn. red.

[Pneumatic and hydraulic-pneumatic devices] Pnevmaticheskie i
pnevmogidravlicheskie prispособlenia. Izd.3., dop. i perer.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1961. 270 p. (MIRA 14:9)
(Hydraulic machinery) (Pneumatic machinery)

TOLSTOV, M.A.; MURAV'YEV, K.N., inzhener, retsenzent; KUVSHINSKIY, V.V.,
kandidat tekhnicheskikh nauk, redaktor.

[Pneumatic and pneumohydraulic devices] Pnevmaticheskie i pnevmogidrav-
licheskie prispособleniya. Sverdlovsk, Gos. nauchno-tekhn. izd-vo mashino-
stroit. i sudostroit. lit-ry [Uralo-Sibirskoe otd-nie] 1953. 162 p.
(MLRA 7:6)

(Pneumatic tools)

TOLSTOY, Mikhail Ivanovich; MIRONETS, Ye.M., red.

[Some problems in the evaluation of the metal potential in geological formations and revealing of endogenetic geochemical halos] Nekotorye voprosy otsenki metallo-nosnosti geologicheskikh obrazovani i obnaruzhenia endogennykh geokhimicheskikh oreolov. Kiev, Izd-vo Kievskogo univ., 1964. 150 p. (MIRA 18:7,

KARISS, Ya.E.; TOLSTOY, M.N.; FEDFILOV, P.P.

Luminescence and absorption of trivalent neodymium in fluorite
type crystals. Opt. i spektr. 18 no.3:440-445 Mr '65.
(MIRA 18:5)

SEYFUL'-MULYUKOV, R.B., kand.geol.-mineral.nauk; TOLSTOY, M.P., prof.,
doktor geol.-mineral.nauk, red.

[Genetic types of Quaternary sediments and basic data on geomorphology] Geneticheskie tipy chetvertichnykh otlozhenii s osnovnymi svedeniyami po geomorfologii; kratkoe uchebnoe posobie. Pod red. M.P.Tolstogo. Moskva, Mosk.sel'khoz.akad.im. K.A. Timiriazeva, 1959. 79 p. (MIRA 13:9)
(Sediments (Geology)) (Geology, Structural)

TOLSTOV, N.

Close contact with the economic council. Prof.-tekh. obr. 15 no.4:
3-4 Ap '58. (MIRA 11:5)

1. Zamestitel' nachal'nika Luganskogo oblastnogo upravleniya trudovykh
rezervov.

(Lugansk Province--Technical education)

L 4446-66 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD
 ACCESSION NR: AP5017897 UR/0051/65/019/001/0097/0101
 535.377

AUTHORS: Sokolov, V. A. 44,55 Tolstoy, N. A. 44,55 48
 B

TITLE: Thermal afterglow and thermostimulated current in TlCl single
 crystals 6 27 27

SOURCE: Optika i spektroskopiya, v. 19, no. 1, 1965, 97-101

TOPIC TAGS: luminescence, thallium compound, thermoluminescence,
 crystal lattice defect, optic transition

ABSTRACT: This is a continuation of earlier work (Sb. 'Fizika
 shchelochno galoidnykh kristallov. (II Vses. soveshch.) [Collection
 Physics of alkali halide crystals, Second All-Union Conference]
 p. 411, Riga, 1962), where it was shown that luminescence of thallium
 chloride undergoes strong temperature quenching when heated above
 160C. To determine the level spectrum in the forbidden band and its
 variations in single crystals of thallium chlorides from different
 sources, which have different luminescence spectra, the authors in-

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ACCESSION NR: AP5017897

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investigated the thermoluminescence and at the same time also the thermostimulated current (TSC) in the same single crystal specimens of TlCl . A block diagram of the experimental setup for the simultaneous measurement is shown in Fig. 1 of the Enclosure. The crystals were excited at -190°C with the 365-nm mercury line for five minutes, which was adequate for an equilibrium population of the capture levels. All the investigated single-crystal TlCl specimens displayed thermal afterglow (TA) and TSC. Specimens from different lots had similar shapes of TA and TSC curves, but different luminescence spectra. Different specimens cut from the same crystal (with similar luminescence spectra) may have different ratios of the peak maxima of the TA and TSC curves. The peaks of the TA and TSC of all the TlCl specimens lie within narrow temperature ranges. The net result is that the capture levels of the carriers in single TlCl crystals are connected with the intrinsic defects of the crystal lattice, and that the luminescence mechanism of this sort, when excited by the band-band transition, is similar to the Schoen-Klasens mechanism. Orig. art. has: 5 figures and 1 table.

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ACCESSION NR: AP5017897

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ASSOCIATION: None

SUBMITTED: 28Apr64

ENCL: 01

SUB CODE: OP, SS

NR REF SOV: 013

OTHER: 010

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L 4446-66

ACCESSION NR: AP5017897

ENCLOSURE: 01

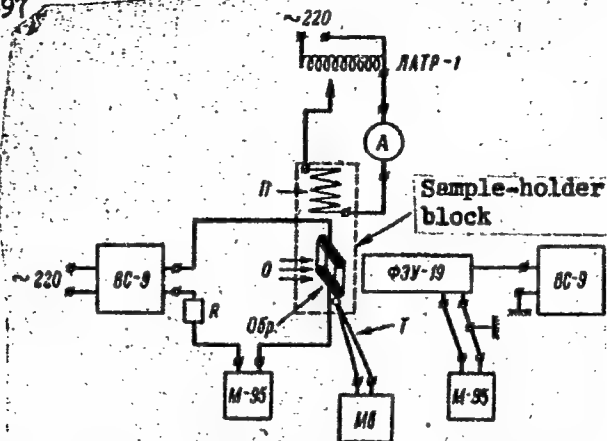


Fig. 1. Block diagram of setup for simultaneous measurement of thermoluminescence and thermostimulated current.

T - Thermocouple, 0 - direction of exciting light, H - oven of sample holder, R - 15 Meg resistor, обр - sample, фгп - photomultiplier, МВ - millivoltmeter, М-95 - microammeter

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SESSION NR: AP4032872

S/0051/64/016/004/0677/0683

AUTHOR: Tolstoy, N.A.; Yepifanov, M.V.

TITLE: Shape of light pulses from a flash tube

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 677-683

TOPIC TAGS: flash lamp, flash tube pulse, light impulse, flash tube pulse cutoff, taumeter, taumeter circuitry

ABSTRACT: Flash tubes are now successfully employed in conjunction with pulse taumeters; the use of the flash-pulse technique has made it feasible to advance from, measurement of integral luminescence lifetimes to measurement of the duration of individual relaxation processes. However, the pulse taumeter technique, as compared with the ordinary taumeter procedure, has two related shortcomings which stem from the fact that the exciting pulses are not square and the fact that the trailing edge of the light pulse is longer than the leading edge. The last reduces the time-sensitivity of the pulse taumeter measurements. Accordingly, the authors propose a method for enhancing the time sensitivity by shortening the trailing edge of the light pulses from the flash tube. This is based on the assumption that the rise and fall

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ACCESSION NR: AP4032872

are both exponential, and is realized in practice by modification of the flash tube supply (discharge) circuit to provide for sharp cutoff of the current to the tube. The circuit used by the authors with an IFK-120 infrared flash tube is diagramed. The shapes of the light pulses yielded by the tube under different supply conditions are shown in figures. An analytic expression for the pulse shape is also adduced. Orig.art.has: 7 formulas, 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 25Jan63

DATE ACQ: 07May64

ENCL: 00

SUB CODE: OP, EE

NR REF SOV: 004

OTHER: 000

Card 2/2

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Properties of ethanolamine compounds of divalent platinum.
Opt. i spektr. 18 no.3:422-431 Mr '65.

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"APPROVED FOR RELEASE: 07/16/2001

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APPROVED FOR RELEASE: 07/16/2001

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BABUSHKIN, L.N., doktor geogr. nauk, prof., glav. red.; AKRAMOV, Z.M., doktor geogr. nauk, red.; SULTANOV, G.S., kand. biol. nauk, red.; PETROSYANTS, M.A., kand. fiz.-matem. nauk, red.; ZARIFOV, Kh.T., kand. filolog. nauk, red.; TOLSTOV, M.N., red.; BAUDINA, S.B., red.; VOLKOVA-VOLK, V.M., red.

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(MIRA 15:12)

(Moon--Surface)

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Moskva, Izd. Ak. nauk SSSR, 1954. 412 p.

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USSR/ Geography - Geology

Card 1/1 Pub. 45 - 5/16

Authors : Tolstov, S. P.; Kes', A. S.; and Zhdanko, T. A.

Title : The history of the Sarikamish Lake in the Middle Ages

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Abstract : The origin of Lake Sarikamish is traced to the Pliocene Epoch at which time it was full of water and formed a large basin. During the first half of the Quaternary Period it became dry and in the second half of the same period it again filled with water due to the change in the course of the Amu-Darya River. In the 16th Century the level of the water began to sink, the water became salty and it finally dried out altogether. Fifteen Russian and USSR references (1879-1953). Maps; drawings.

Institution : Ethnographical and Geographical Institute of the Soviet Academy of Science

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(D'iaonov, Mikhail Mikhailovich, d. 1954?)

GULYAMOV, Yakh'ya Gulyamovich, prof.; TOLSTOV, S.P., otvetstvennyy red.;
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Istoriia orosheniia Khorezma s drevneishikh vremen do nashikh
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Tolstov)
(Khorezm Province--Irrigation)

7013500, 518-

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BELYAYEV, V.I., kand.filologicheskikh nauk, red.; GULYAMOV, Ya.G.,
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red.; SAL'YE, M.A., kand.filolog.nauk, red.; SEMENOV, A.A., red.;
TOLSTOV, S.P., pochetnyy akademik, red.; UKLONSKIY, A.S., akademik,
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TROFIMUK, A.A., akademik

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Mr '63. (MIRA 16:3)

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